

The embodiments of the invention in which an exclusive property or privilege is claimed are defined as follows:

1. An on-demand transportation system for use in scheduling at least one of passenger or package transportation, comprising:

5 a user system for scheduling the at least one of passenger or package transportation, the user system having a communications device capable of communication;

10 a vehicle having a vehicle user for providing the at least one of passenger or package transportation, the vehicle comprising a communications device for transmitting and receiving information, a user interface for allowing the vehicle user to perform various interactive functions, and a processing system having a processor, a memory, and a database for controlling vehicle system components;

15 a server maintaining information on logistical and geographic features of the area for which transportation of the at least one of passenger or package is offered, information on the location, capacity, and availability of the vehicle to transport the at least one of passenger or package, and information on current and historical traffic conditions along possible routes of travel for which transportation of the at least one of passenger or package is offered; and

20 a data channel providing communication among the user system, vehicle, and server.

2. The on-demand transportation system of claim 1, wherein the server further maintains identity and credit authorization information associated with the at least one of passenger or package.

25 3. The on-demand transportation system of claim 1, wherein the server comprises a memory, the memory containing stored program instructions executable by the server, comprising:

a component configured to receive transportation request information via the data channel for the at least one of passenger or package transportation;

30 a component configured to evaluate the transportation request information to determine transportation options, including available routes of travel and costs associated with transporting the at least one of passenger or package;

a component configured to notify the user system of transportation options via the data channel; and

a component configured to schedule transportation for the at least one of passenger or package according to a transportation option selected.

5 4. The on-demand transportation system of claim 3, wherein the component configured to evaluate the transportation request information to determine transportation options, including available routes of travel and costs associated with transporting the at least one of passenger or package, utilizes information on the logistical and geographic features of the area for which transportation of the at least one of passenger or package is offered, the
10 location, capacity, and availability of the vehicle to transport the at least one of passenger or package, and current and historical traffic conditions along possible routes of travel for which transportation of the at least one of passenger or package is offered.

15 5. The on-demand transportation system of claim 3, wherein the component configured to schedule transportation for the at least one of passenger or package according to the selected transportation option comprises:

if account information exists in the server associated with the at least one of passenger or package, requesting account authorization for payment for the requested transportation;

20 if account information does not exist in the server associated with the at least one of passenger or package,

establishing an account associated with the at least one of passenger or package; and

requesting account authorization for payment for the requested transportation;

25 if account authorization for the requested transportation is obtained, charging the account associated with the at least one of passenger or package for the requested transportation; and

if account authorization for the requested transportation is not obtained, providing notification of alternative payment options.

30 6. The on-demand transportation system of claim 1, wherein the data channel further comprises a satellite system having a satellite dish facilitating information exchange among the user system, vehicle, and server.

7. An on-demand transportation system for use in scheduling at least one of passenger or package transportation, comprising:

a means for scheduling the at least one of passenger or package transportation, the means having a communications device capable of communication;

a transportation means for providing the at least one of passenger or package transportation, the means comprising a communications device for transmitting and receiving information, and a processing system having a processor, a memory, and a database for controlling vehicle system components;

a means for maintaining information on at least one of logistical and geographic features of the area for which transportation of the at least one of passenger or package is offered, information on the location, capacity, and availability of transportation means to transport the at least one of passenger or package, and information on current and historical traffic conditions along possible routes of travel for which transportation of the at least one of passenger or package is offered; and

a means for providing communication among the user system, vehicle, and server.

8. The on-demand transportation system of claim 7, wherein the means for scheduling the at least one of passenger or package transportation is configured to evaluate the transportation request information to determine transportation options, including available routes of travel and costs associated with transporting the at least one of passenger or package, utilizes information on the logistical and geographic features of the area for which transportation of the at least one of passenger or package is offered, the location, capacity, and availability of the vehicle to transport the at least one of passenger or package, and current and historical traffic conditions along possible routes of travel for which transportation of the at least one of passenger or package is offered.

9. A method for scheduling at least one of passenger or package transportation in an on-demand transportation system, the on-demand transportation system having a user system for scheduling the at least one of passenger or package transportation capable of communication, a vehicle having a vehicle user for providing the at least one of passenger or package transportation and capable of transmitting and receiving information, a server maintaining information relevant to the at least one of passenger or package transportation, and a data channel providing communication among the user system, vehicle, and server, the method comprising:

requesting transportation information from the server for the at least one of
passenger or package transportation via the data channel, the request including
transportation request information;
evaluating the transportation request information to determine transportation
options, including available routes of travel and costs associated with
transporting the at least one of passenger or package;
notifying the user system of transportation options via the data channel;
selecting transportation according to at least one of the transportation options; and
scheduling transportation for the at least one of passenger or package according to
the at least one of the selected transportation options.

10. The method for scheduling the at least one of passenger or package transportation
in an on-demand transportation system of claim 9, wherein the server comprises a server
memory, and the method further comprises saving the transportation options in the server
memory.

11. The method for scheduling the at least one of passenger or package transportation
in an on-demand transportation system of claim 9, further comprising determining charges
associated with the at least one of passenger or package transportation in the on-demand
transportation system.

12. The method for scheduling the at least one of passenger or package transportation
in an on-demand transportation system of claim 11, wherein determining charges associated
with the at least one of passenger or package transportation in the on-demand transportation
system is dependent on at least one of logistical and geographic features of the area for which
delivery is offered, the location, capacity, and availability of at least one delivery vehicle, and
current and historical traffic conditions along possible delivery routes.

13. A method for scheduling at least one of passenger or package transportation in an
on-demand transportation system, the on-demand transportation system having a user system
for scheduling the at least one of passenger or package transportation capable of
communication, a vehicle for providing the at least one of passenger or package
transportation and capable of transmitting and receiving information, a server maintaining
information relevant to the at least one of passenger or package transportation, and a data
channel providing communication among the user system, vehicle, and server, comprising:

receiving transportation request information from the user system for the at least
one of passenger or package transportation via the data channel;

determining routes of transportation for the at least one of passenger or package transportation;

notifying the user system of transportation options via the data channel;

scheduling transportation for the at least one of passenger or package according to the selected transportation option; and

14. The method for scheduling the at least one of passenger or package transportation in an on-demand transportation system of claim 13, wherein the server comprises a server memory, and the method further comprises saving the transportation options in the server memory.

16. The method for scheduling the at least one of passenger or package transportation in an on-demand transportation system of claim 13, wherein determining optimal routes of transportation for the at least one of passenger or package transportation comprises:

determining vehicles capable of providing the at least one of requested passenger or package transportation along possible routes of travel;

determining predicted traffic conditions along possible routes of travel based on existing and historical traffic conditions.

17. The method for scheduling the at least one of passenger or package transportation in an on-demand transportation system of claim 13, wherein scheduling transportation for the at least one of passenger or package according to the selected transportation option comprises:

5 if account information exists in the server associated with the at least one of passenger or package, requesting account authorization for the requested transportation;

if account information does not exist in the server associated with the at least one of passenger or package,

10 establishing an account associated with the at least one of passenger or package; and

requesting account authorization for the requested transportation;

15 if account authorization for the requested transportation is obtained, charging the account associated with the at least one of passenger or package for the requested transportation; and

if account authorization for the requested transportation is not obtained, notifying the user system of alternative payment options.

18. The method for scheduling the at least one of passenger or package transportation in an on-demand transportation system of claim 13, further comprising notifying the user system of the imminent pickup of the at least one of passenger or package according to the selected transportation option.

19. The method for scheduling the at least one of passenger or package transportation in an on-demand transportation system of claim 13, wherein charges associated with routes for the at least one of passenger or package transportation are dependent on at least one of logistical and geographic features of the area for which delivery is offered, the location, capacity, and availability of at least one delivery vehicle, and current and historical traffic conditions along possible delivery routes.

20. A method for scheduling delivery of goods to a passenger in an on-demand transportation system, the on-demand transportation system having at least one vehicle for providing passenger and goods transportation along a travel route and a server maintaining information relevant to passenger and goods transportation, the method comprising:

ordering goods for the passenger from a participating retailer;

submitting passenger goods to the on-demand transportation system;

determining the passenger's scheduled transportation route in the on-demand transportation system;

associating passenger goods with the passenger's scheduled transportation route in the on-demand transportation system; and

transferring passenger goods to a vehicle in the on-demand transportation system that is scheduled to transport the passenger along the passenger's scheduled transportation route.

21. The method for scheduling delivery of goods to a passenger in an on-demand transportation system of claim 20,

wherein the vehicle has vehicle status information; and

the method further comprises:

scanning the package for package status information along the delivery route; and

updating the server with package status information scanned from the package and vehicle status information.

22. The method for scheduling delivery of goods to a passenger in an on-demand transportation system of claim 20, further comprising determining delivery charges associated with delivery of passenger goods to the passenger in the on-demand transportation system.

23. The method for scheduling delivery of goods to a passenger in an on-demand transportation system of claim 22, wherein determining delivery charges associated with delivery of passenger goods to the passenger in the on-demand transportation system is dependent on logistical and geographic features of the area for which delivery is offered, the location, capacity, and availability of at least one delivery vehicle, and current and historical traffic conditions along possible delivery routes.

24. The method for scheduling delivery of goods to a passenger in an on-demand transportation system of claim 20, further comprising charging for delivery of passenger goods to the passenger in the on-demand transportation system.

25. The method for scheduling delivery of goods to a passenger in an on-demand transportation system of claim 24, wherein charging for delivery of passenger goods to the passenger in the on-demand transportation system comprises:

if account information exists in the server associated with the delivery of the passenger goods, requesting account authorization for payment for the requested delivery;

if account information does not exist in the server associated with the delivery of the passenger goods,

establishing an account associated with the delivery of the passenger goods; and

requesting account authorization for payment for the requested delivery;

if account authorization for the requested transportation is obtained, charging the account associated with delivery of the passenger goods for the requested delivery; and

if account authorization for the requested transportation is not obtained, providing notification of alternative payment options.

26. A method for scheduling service for a service item to be delivered to a passenger in an on-demand transportation system, the on-demand transportation system having at least one vehicle for providing passenger and service item transportation along a travel route and a server maintaining information relevant to passenger and service item transportation, the method comprising:

submitting a service item needing service from a service provider to the on-demand transportation system;

transferring the service item to the service provider;

receiving the serviced item from the service provider at the on-demand transportation system;

determining the passenger's scheduled transportation route in the on-demand transportation system;

associating serviced item with the passenger's scheduled transportation route in the on-demand transportation system; and

transferring passenger goods to a vehicle in the on-demand transportation system that is scheduled to transport the passenger along the passenger's scheduled transportation route.

27. The method for scheduling service for a service item to be delivered to a passenger in an on-demand transportation system of claim 26,

wherein the vehicle has vehicle status information; and

the method further comprises:

scanning the package for package status information along the delivery route; and
updating the server with package status information scanned from the package and vehicle status information.

5 28. The method for scheduling service for a service item to be delivered to a passenger in an on-demand transportation system of claim 26, further comprising determining delivery charges associated with delivery of the service item to the passenger in the on-demand transportation system.

10 29. The method for scheduling service for a service item to be delivered to a passenger in an on-demand transportation system of claim 28, wherein determining delivery charges associated with delivery of the service item to the passenger in the on-demand transportation system is dependent on logistical and geographic features of the area for which delivery is offered, the location, capacity, and availability of at least one delivery vehicle, and current and historical traffic conditions along possible delivery routes.

15 30. The method for scheduling service for a service item to be delivered to a passenger in an on-demand transportation system of claim 26, further comprising charging for delivery of the service item to the passenger in the on-demand transportation system.

20 31. The method for scheduling service for a service item to be delivered to a passenger in an on-demand transportation system of claim 30, wherein charging for delivery of the service item to the passenger in the on-demand transportation system comprises:

if account information exists in the server associated with the delivery of the service item, requesting account authorization for payment for the requested delivery;

25 if account information does not exist in the server associated with the delivery of the service item,

 establishing an account associated with the delivery of the service item;
 and

 requesting account authorization for payment for the requested delivery;

30 if account authorization for the requested transportation is obtained, charging the account associated with delivery of the service item for the requested delivery;
 and

if account authorization for the requested transportation is not obtained, providing notification of alternative payment options.

32. A method for sending and receiving a package delivery in an on-demand transportation system, the on-demand transportation system having at least one user system capable of communication for use by at least one of a sender and a receiver in scheduling package pickup and delivery, at least one vehicle capable of transmitting and receiving information for providing package transportation along a travel route, a server maintaining information relevant to package delivery, and a data channel providing communication among the user system, vehicle, and server, the method comprising:

submitting package delivery request information from the sender to the server;
evaluating the delivery request information to determine delivery options,
including available pickup routes and delivery routes, and pickup location and delivery location;

notifying the sender of delivery options via the data channel and user system;
selecting delivery according to at least one of the delivery options;
scheduling delivery of the package according to the at least one of the selected delivery options;

notifying the sender via the data channel and a user system of the imminent arrival of a vehicle in the on-demand transportation system at the pickup location along a pickup route;

receiving the package from the sender at the vehicle in the on-demand transportation system at the pickup location along the pickup route;

transferring the package to a vehicle in the on-demand transportation system that is scheduled to transport the package along the delivery route;

notifying the receiver via the data channel and a user system of the scheduled delivery of the package by a vehicle in the on-demand transportation system at the delivery location along the delivery route; and

delivering package to receiver at the delivery location along the delivery route.

33. The method for sending and receiving a package delivery in an on-demand transportation system of claim 32,

wherein the vehicle has vehicle status information; and

the method further comprises:

scanning the package for package status information along the delivery route; and

updating the server with package status information scanned from the package and vehicle status information.

34. The method for sending and receiving a package delivery in an on-demand transportation system of claim 32, wherein determining delivery options further comprises evaluating charges for delivery of the service item to the passenger in the on-demand transportation system.

5 35. The method for sending and receiving a package delivery in an on-demand transportation system of claim 34, wherein charges for delivery of the service item to the passenger in the on-demand transportation system are dependent on at least one of logistical and geographic features of the area for which delivery is offered, the location, capacity, and availability of at least one delivery vehicle, and current and historical traffic conditions along
10 possible delivery routes.

36. The method for sending and receiving a package delivery in an on-demand transportation system of claim 32, further comprising charging for delivery of the package to the receiver in the on-demand transportation system.

15 37. The method for sending and receiving a package delivery in an on-demand transportation system of claim 36, wherein charging for delivery of the package to the receiver in the on-demand transportation system comprises:

if account information exists in the server associated with the at least one of sender or receiver, requesting account authorization for payment for the requested delivery;

20 if account information does not exist in the server associated with the at least one of sender or receiver,

establishing an account associated with the at least one of sender or receiver; and

requesting account authorization for payment for the requested delivery;

25 if account authorization for the requested transportation is obtained, charging the account associated with the at least one of sender or receiver for the requested delivery; and

if account authorization for the requested transportation is not obtained, providing notification of alternative payment options.

30 38. A method for scheduling delivery of a package to a passenger in an on-demand transportation system, the on-demand transportation system having at least one user system for use by a delivery requester in scheduling package delivery, at least one vehicle for providing passenger and package transportation along a travel route, a server maintaining

information relevant to passenger transportation and package delivery, and a data channel providing communication among the user system, vehicle, and server, comprising:

receiving a package delivery request for delivery of a package to a passenger in the on-demand transportation system from the requester, the request including requester identification information and passenger identification information; evaluating the package delivery request to determine delivery options, including availability of the passenger in the on-demand transportation system, available pickup routes and passenger route, and pickup location; if the passenger in the on-demand transportation system is unavailable to receive the delivery, notifying the requester of the passenger unavailability; determining at the server if the requester has previously been authorized by the passenger to make the delivery; if the requester is not authorized by the passenger to make the delivery, contacting the passenger regarding authorizing the requester to make the delivery; if the passenger authorizes delivery of the package, notifying the requester via the data channel and user system of delivery options; selecting delivery according to at least one of the delivery options; receiving the package from the requester at a vehicle in the on-demand transportation system at the pickup location along the pickup route; transferring the package to a vehicle in the on-demand transportation system that is scheduled to transport the package along the passenger route; and delivering package to passenger along the passenger route.

39. The method for scheduling delivery of a package to a passenger in an on-demand transportation system of claim 38,

wherein the vehicle has vehicle status information; and the method further comprises:

scanning the package for package status information along the delivery route; and

updating the server with package status information scanned from the package and vehicle status information.

40. The method for scheduling delivery of a package to a passenger in an on-demand transportation system of claim 38, wherein determining delivery options further comprises evaluating charges for delivery of the service item to the passenger in the on-demand transportation system.

41. The method for scheduling delivery of a package to a passenger in an on-demand transportation system of claim 40, wherein charges for delivery of the service item to the passenger in the on-demand transportation system are dependent on at least one of logistical and geographic features of the area for which delivery is offered, the location, capacity, and availability of at least one delivery vehicle, and current and historical traffic conditions along possible delivery routes.

42. The method for scheduling delivery of a package to a passenger in an on-demand transportation system of claim 38, further comprising charging for delivery of the package to the passenger in the on-demand transportation system.

43. The method for scheduling delivery of a package to a passenger in an on-demand transportation system of claim 42, wherein charging for delivery of the package to the passenger in the on-demand transportation system comprises:

- if account information exists in the server associated with the package delivery, requesting account authorization for payment for the requested delivery;
- if account information does not exist in the server associated with the package delivery,
 - establishing an account associated with the package delivery; and
 - requesting account authorization for payment for the requested delivery;
- if account authorization for the requested transportation is obtained, charging the account associated with the package delivery for the requested delivery; and
- if account authorization for the requested transportation is not obtained, providing notification of alternative payment options.

44. A method for calculating charges associated with transportation of at least one of a passenger or package in an on-demand transportation system having a user system for scheduling the at least one of passenger or package transportation, a vehicle having a vehicle user for providing the at least one of passenger or package transportation, and a server maintaining information on logistical and geographic features of the area for which transportation of the at least one of passenger or package is offered, the method comprising:

- receiving the scheduled passenger or package transportation request from the user system;
- evaluating information maintained by the server on the logistical and geographic features of the area for which transportation of the at least one of passenger or package is offered;

determining the location, capacity, and availability of the vehicle to transport the at least one of passenger or package;

anticipating traffic conditions in the area for which transportation of the at least one of passenger or package is offered based on current and historical traffic conditions maintained by the server; and calculating charges associated with the transportation of at least one of a passenger or package according to at least one of the logistical and geographic features of the area for which transportation is offered, location, capacity, and availability of the vehicle, and anticipated traffic conditions.